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SEQUENCE LISTING

<110> Urano, Fumihiko

<120> METHODS FOR DIAGNOSING AND TREATING
      ENDOPLASMIC RETICULUM (ER) STRESS DISEASES

<130> 07917-259US1

<150> PCT/US2004/033516
<151> 2004-10-12

<150> US 60/510,262
<151> 2003-10-09

<150> US 60/519,736
<151> 2003-11-12

<150> US 60/568,468
<151> 2004-05-05

<160> 41

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tcatggtgcc agcccagaga ggggccagcc cggaggcagc gagcggggg ctgccccagg   180
cgcgcaagcg acagcgcctc acgcacctga gccccgagga gaaggcgctg aggaggaaac   240
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<210> 2
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<213> Homo sapiens

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            20                  25                  30
Gly Gln Ala Leu Pro Leu Met Val Pro Ala Gln Arg Gly Ala Ser Pro
        35                  40                  45
Glu Ala Ala Ser Gly Gly Leu Pro Gln Ala Arg Lys Arg Gln Arg Leu
    50                  55                  60
Thr His Leu Ser Pro Glu Glu Lys Ala Leu Arg Arg Lys Leu Lys Asn
65                  70                  75                  80
Arg Val Ala Ala Gln Thr Ala Arg Asp Arg Lys Lys Ala Arg Met Ser
                85                  90                  95
Glu Leu Glu Gln Gln Val Val Asp Leu Glu Glu Glu Asn Gln Lys Leu
            100                 105                 110
Leu Leu Glu Asn Gln Leu Leu Arg Glu Lys Thr His Gly Leu Val Val
        115                 120                 125
Glu Asn Gln Glu Leu Arg Gln Arg Leu Gly Met Asp Ala Leu Val Ala
    130                 135                 140
Glu Glu Glu Ala Glu Ala Lys Gly Asn Glu Val Arg Pro Val Ala Gly
145                 150                 155                 160
Ser Ala Glu Ser Ala Ala Gly Ala Gly Pro Val Val Thr Pro Pro Glu
                165                 170                 175
His Leu Pro Met Asp Ser Gly Gly Ile Asp Ser Ser Asp Ser Glu Ser
            180                 185                 190
Asp Ile Leu Leu Gly Ile Leu Asp Asn Leu Asp Pro Val Met Phe Phe
        195                 200                 205
Lys Cys Pro Ser Pro Glu Pro Ala Ser Leu Glu Glu Leu Pro Glu Val
    210                 215                 220
Tyr Pro Glu Gly Pro Ser Ser Leu Pro Ala Ser Leu Ser Leu Ser Val
225                 230                 235                 240
Gly Thr Ser Ser Ala Lys Leu Glu Ala Ile Asn Glu Leu Ile Arg Phe
                245                 250                 255
Asp His Ile Tyr Thr Lys Pro Leu Val Leu Glu Ile Pro Ser Glu Thr
            260                 265                 270
Glu Ser Gln Ala Asn Val Val Val Lys Ile Glu Glu Ala Pro Leu Ser
        275                 280                 285
Pro Ser Glu Asn Asp His Pro Glu Phe Ile Val Ser Val Lys Glu Glu
    290                 295                 300
Pro Val Glu Asp Asp Leu Val Pro Glu Leu Gly Ile Ser Asn Leu Leu
305                 310                 315                 320
Ser Ser Ser His Cys Pro Lys Pro Ser Ser Cys Leu Leu Asp Ala Tyr
                325                 330                 335
Ser Asp Cys Gly Tyr Gly Gly Ser Leu Ser Pro Phe Ser Asp Met Ser
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            340                    345                    350
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tcatggtgcc agcccagaga ggggccagcc cggaggcagc gagcggggggg ctgccccagg       180
cgcgcaagcg acagcgcctc acgcacctga gccccgagga gaaggcgctg aggaggaaac       240
tgaaaaacag agtagcagct cagactgcca gagatcgaaa gaaggctcga atgagtgagc       300
tggaacagca agtggtagat ttagaagaag agaaccaaaa acttttgcta gaaaatcagc       360
ttttacgaga gaaaactcat ggccttgtag ttgagaacca ggagttaaga cagcgcttgg       420
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tggccgggtc tgctgagtcc gcagcactca gactacgtgc acctctgcag caggtgcagg       540
cccagttgtc acccctccag aacatctccc catggattct ggcggtattg actcttcaga       600
ttcagagtct gatatcctgt tgggcattct ggacaacttg gacccagtca tgttcttcaa       660
atgcccttcc ccagagcctg ccagcctgga ggagctccca gaggtctacc cagaaggacc       720
cagttcctta ccagcctccc tttctctgtc agtggggacg tcatcagcca agctggaagc       780
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ctcagagaat gatcaccctg aattcattgt ctcagtgaag gaagaacctg tagaagatga       960
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gttttcccta aaatacttat tatgtaaggg tcattagaca aatgtcttga agtagacatg      1500
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<211> 261
<212> PRT
<213> Homo sapiens

<400> 4

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Val Leu Leu Leu Ser Gly Gln Pro Ala Ser Ala Ala Gly Ala Pro Ala
            20                  25                  30
Gly Gln Ala Leu Pro Leu Met Val Pro Ala Gln Arg Gly Ala Ser Pro
        35                  40                  45
Glu Ala Ala Ser Gly Gly Leu Pro Gln Ala Arg Lys Arg Gln Arg Leu
    50                  55                  60
```

```
Thr His Leu Ser Pro Glu Glu Lys Ala Leu Arg Arg Lys Leu Lys Asn
65              70              75              80
Arg Val Ala Ala Gln Thr Ala Arg Asp Arg Lys Lys Ala Arg Met Ser
            85              90              95
Glu Leu Glu Gln Gln Val Val Asp Leu Glu Glu Glu Asn Gln Lys Leu
            100             105             110
Leu Leu Glu Asn Gln Leu Leu Arg Glu Lys Thr His Gly Leu Val Val
        115             120             125
Glu Asn Gln Glu Leu Arg Gln Arg Leu Gly Met Asp Ala Leu Val Ala
        130             135             140
Glu Glu Glu Ala Glu Ala Lys Gly Asn Glu Val Arg Pro Val Ala Gly
145             150             155             160
Ser Ala Glu Ser Ala Ala Leu Arg Leu Arg Ala Pro Leu Gln Gln Val
            165             170             175
Gln Ala Gln Leu Ser Pro Leu Gln Asn Ile Ser Pro Trp Ile Leu Ala
            180             185             190
Val Leu Thr Leu Gln Ile Gln Ser Leu Ile Ser Cys Trp Ala Phe Trp
        195             200             205
Thr Thr Trp Thr Gln Ser Cys Ser Ser Asn Ala Leu Pro Gln Ser Leu
        210             215             220
Pro Ala Trp Arg Ser Ser Gln Arg Ser Thr Gln Lys Asp Pro Val Pro
225             230             235             240
Tyr Gln Pro Pro Phe Leu Cys Gln Trp Gly Arg His Gln Pro Ser Trp
            245             250             255
Lys Pro Leu Met Asn
            260
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<210> 5
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<212> DNA
<213> Homo sapiens

<400> 5
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<210> 6
<211> 210
<212> PRT
<213> Homo sapiens

<400> 6
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Gly Ala Gly Pro Val Val Thr Pro Pro Glu His Leu Pro Met Asp Ser
1               5               10              15
Gly Gly Ile Asp Ser Ser Asp Ser Glu Ser Asp Ile Leu Leu Gly Ile
            20              25              30
Leu Asp Asn Leu Asp Pro Val Met Phe Phe Lys Cys Pro Ser Pro Glu
        35              40              45
Pro Ala Ser Leu Glu Glu Leu Pro Glu Val Tyr Pro Glu Gly Pro Ser
        50              55              60
Ser Leu Pro Ala Ser Leu Ser Leu Ser Val Gly Thr Ser Ser Ala Lys
65              70              75              80
Leu Glu Ala Ile Asn Glu Leu Ile Arg Phe Asp His Ile Tyr Thr Lys
            85              90              95
Pro Leu Val Leu Glu Ile Pro Ser Glu Thr Glu Ser Gln Ala Asn Val
            100             105             110
Val Val Lys Ile Glu Glu Ala Pro Leu Ser Pro Ser Glu Asn Asp His
        115             120             125
```

```
Pro Glu Phe Ile Val Ser Val Lys Glu Glu Pro Val Glu Asp Asp Leu
    130                 135                 140
Val Pro Glu Leu Gly Ile Ser Asn Leu Leu Ser Ser Ser His Cys Pro
145                 150                 155                 160
Lys Pro Ser Ser Cys Leu Leu Asp Ala Tyr Ser Asp Cys Gly Tyr Gly
                165                 170                 175
Gly Ser Leu Ser Pro Phe Ser Asp Met Ser Ser Leu Leu Gly Val Asn
            180                 185                 190
His Ser Trp Glu Asp Thr Phe Ala Asn Glu Leu Phe Pro Gln Leu Ile
        195                 200                 205
Ser Val
    210
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<210> 7
<211> 95
<212> PRT
<213> Homo sapiens
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 1               5                  10                  15
Leu Gln Asn Ile Ser Pro Trp Ile Leu Ala Val Leu Thr Leu Gln Ile
            20                  25                  30
Gln Ser Leu Ile Ser Cys Trp Ala Phe Trp Thr Thr Trp Thr Gln Ser
        35                  40                  45
Cys Ser Ser Asn Ala Leu Pro Gln Ser Leu Pro Ala Trp Arg Ser Ser
    50                  55                  60
Gln Arg Ser Thr Gln Lys Asp Pro Val Pro Tyr Gln Pro Pro Phe Leu
65                  70                  75                  80
Cys Gln Trp Gly Arg His Gln Pro Ser Trp Lys Pro Leu Met Asn
                85                  90                  95
```

```
<210> 8
<211> 24
<212> DNA
<213> Artificial Sequence
```

```
<220>
<223> Primer
```

```
<400> 8
aaacagagta gcagctcaga ctgc                                          24
```

```
<210> 9
<211> 22
<212> DNA
<213> Artificial Sequence
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<220>
<223> Primer
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```
<400> 9
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<210> 10
<211> 24
<212> DNA
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<213> Artificial Sequence

<220>
<223> Primer

<400> 10
aaacagagta gcagcgcaga ctgc   24

<210> 11
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Primer

<400> 11
cagacaatgg ctggatgaaa gc   22

<210> 12
<211> 24
<212> DNA
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<220>
<223> Primer

<400> 12
aaacagagta gcagcacaga ctgc   24

<210> 13
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<220>
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<400> 13
cagcactcag actacgtgca   20

<210> 14
<211> 21
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<220>
<223> Primer

<400> 14
atccatgggg agatgttctg g   21

<210> 15
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<212> DNA
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<220>
<223> Primer

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ctgagtccga atcaggtgca g                                           21


<210> 16
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<220>
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<400> 16
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<210> 17
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<220>
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<400> 17
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<210> 18
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<220>
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<400> 18
atccatggga agatgttctg g                                           21


<210> 19
<211> 20
<212> DNA
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<220>
<223> Primer

<400> 19
cagcactcag actacgtgcg                                             20


<210> 20
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<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetically generated peptide
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<220>
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Cys Val Gly Arg His Ser Phe Ser Arg Arg Ser Gly
 1               5                   10

<210> 22
<211> 19
<212> DNA
<213> Artificial Sequence

<220>
<223> Primer

<400> 22
caagtgtggg tacgccacg                                            19

<210> 23
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Primer

<400> 23
aaagaagctc tccatccggt c                                         21

<210> 24
<211> 18
<212> DNA
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<220>
<223> Primer

<400> 24
ctacctgcga agaggccg                                             18

<210> 25
<211> 20
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<212> DNA
<213> Artificial Sequence

<220>
<223> Primer

<400> 25
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<211> 20
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<220>
<223> Primer

<400> 26
ccatcaacat gctcccgttc                                              20

<210> 27
<211> 19
<212> DNA
<213> Artificial Sequence

<220>
<223> Primer

<400> 27
gggtaggcct cgccataca                                               19

<210> 28
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetically generated peptide

<400> 28
Thr Cys Arg Met Asp Val Leu Arg Ala Ser Leu Pro Ala Gln Ser
 1               5                   10                  15

<210> 29
<211> 24
<212> DNA
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<220>
<223> Primer

<400> 29
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<210> 30
<211> 26
<212> DNA
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<213> Artificial Sequence

<220>
<223> Primer

<400> 30
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<210> 31
<211> 21
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<213> Artificial Sequence

<220>
<223> Primer

<400> 31
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<210> 32
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Primer

<400> 32
tgggtttcca cagttgggaa   20

<210> 33
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<223> Primer

<400> 33
acagccttaa ccaacttgag gtg   23

<210> 34
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<220>
<223> Primer

<400> 34
tccgggaagc aacgaatcta   20

<210> 35
<211> 21
<212> DNA
<213> Artificial Sequence

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<220>
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<400> 35
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<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetically generated oligonucleotide

<400> 36
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<210> 37
<211> 21
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<213> Artificial Sequence

<220>
<223> Synthetically generated oligonucleotide

<400> 37
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<210> 38
<211> 3071
<212> DNA
<213> Homo sapiens

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ggaatgcctg gggagtgggg tgcaggcggg cagcactgag ggaccctgcc ccgcccctcc     2580
ccccaggccc ctttcctctg cagcttctca agtgagactg acctgtctca cccagcagcc     2640
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gcgcccaagg aaggccactt ctcaactggc agaacttctg aagtttagaa ttggaattac     2760
ttccttacta gtgtctttttg gcttaaattt tgtctttttga agttgaatgc ttaatcccgg    2820
gaaagaggaa caggagtgcc agactcctgg tctttccagt ttagaaaagg ctctgtgcca      2880
aggagggacc acaggagctg ggacctgcct gcccctgtct tttccccttg gttttgtgtt     2940
acaagagttg ttggagacag tttcagatga ttatttaatt tgtaaatatt gtacaaattt      3000
taatagctta aattgtatat acagccaaat aaaaacttgc attaacaaaa aaaaaaaaaa      3060
aaaaaaaaaa a                                                          3071
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<210> 39
<211> 616
<212> PRT
<213> Homo sapiens

<400> 39
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Met Phe Arg Thr Ala Val Met Met Ala Ala Ser Leu Ala Leu Thr Gly
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Ala Val Val Ala His Ala Tyr Tyr Leu Lys His Gln Phe Tyr Pro Thr
            20                  25                  30
Val Val Tyr Leu Thr Lys Ser Ser Pro Ser Met Ala Val Leu Tyr Ile
        35                  40                  45
Gln Ala Phe Val Leu Val Phe Leu Leu Gly Lys Val Met Gly Lys Val
    50                  55                  60
Phe Phe Gly Gln Leu Arg Ala Ala Glu Met Glu His Leu Leu Glu Arg
65                  70                  75                  80
Ser Trp Tyr Ala Val Thr Glu Thr Cys Leu Ala Phe Thr Val Phe Arg
                85                  90                  95
Asp Asp Phe Ser Pro Arg Phe Val Ala Leu Phe Thr Leu Leu Leu Phe
                100                 105                 110
Leu Lys Cys Phe His Trp Leu Ala Glu Asp Arg Val Asp Phe Met Glu
        115                 120                 125
Arg Ser Pro Asn Ile Ser Trp Leu Phe His Cys Arg Ile Val Ser Leu
    130                 135                 140
Met Phe Leu Leu Gly Ile Leu Asp Phe Leu Phe Val Ser His Ala Tyr
145                 150                 155                 160
His Ser Ile Leu Thr Arg Gly Ala Ser Val Gln Leu Val Phe Gly Phe
```

```
                165                   170                   175
Glu Tyr Ala Ile Leu Met Thr Met Val Leu Thr Ile Phe Ile Lys Tyr
            180                   185                   190
Val Leu His Ser Val Asp Leu Gln Ser Glu Asn Pro Trp Asp Asn Lys
            195                   200                   205
Ala Val Tyr Met Leu Tyr Thr Glu Leu Phe Thr Gly Phe Ile Lys Val
    210                   215                   220
Leu Leu Tyr Met Ala Phe Met Thr Ile Met Ile Lys Val His Thr Phe
    225                   230                   235                   240
Pro Leu Phe Ala Ile Arg Pro Met Tyr Leu Ala Met Arg Gln Phe Lys
                245                   250                   255
Lys Ala Val Thr Asp Ala Ile Met Ser Arg Arg Ala Ile Arg Asn Met
                260                   265                   270
Asn Thr Leu Tyr Pro Asp Ala Thr Pro Glu Glu Leu Gln Ala Met Asp
            275                   280                   285
Asn Val Cys Ile Ile Cys Arg Glu Glu Met Val Thr Gly Ala Lys Arg
            290                   295                   300
Leu Pro Cys Asn His Ile Phe His Thr Ser Cys Leu Arg Ser Trp Phe
    305                   310                   315                   320
Gln Arg Gln Gln Thr Cys Pro Thr Cys Arg Met Asp Val Leu Arg Ala
                325                   330                   335
Ser Leu Pro Ala Gln Ser Pro Pro Pro Glu Pro Ala Asp Gln Gly
            340                   345                   350
Pro Pro Pro Ala Pro His Pro Pro Pro Leu Leu Pro Gln Pro Pro Asn
            355                   360                   365
Phe Pro Gln Gly Leu Leu Pro Pro Phe Pro Pro Gly Met Phe Pro Leu
    370                   375                   380
Trp Pro Pro Met Gly Pro Phe Pro Pro Val Pro Pro Pro Ser Ser
    385                   390                   395                   400
Gly Glu Ala Val Ala Pro Pro Ser Thr Ser Ala Ala Leu Ser Arg Pro
                405                   410                   415
Ser Gly Ala Ala Thr Thr Thr Ala Ala Gly Thr Ser Ala Thr Ala Ala
            420                   425                   430
Ser Ala Thr Ala Ser Gly Pro Gly Ser Gly Ser Ala Pro Glu Ala Gly
            435                   440                   445
Pro Ala Pro Gly Phe Pro Phe Pro Pro Pro Trp Met Gly Met Pro Leu
    450                   455                   460
Pro Pro Pro Phe Ala Phe Pro Pro Met Pro Val Pro Pro Ala Gly Phe
    465                   470                   475                   480
Ala Gly Leu Thr Pro Glu Glu Leu Arg Ala Leu Glu Gly His Glu Arg
            485                   490                   495
Gln His Leu Glu Ala Arg Leu Gln Ser Leu Arg Asn Ile His Thr Leu
            500                   505                   510
Leu Asp Ala Ala Met Leu Gln Ile Asn Gln Tyr Leu Thr Val Leu Ala
    515                   520                   525
Ser Leu Gly Pro Pro Arg Pro Ala Thr Ser Val Asn Ser Thr Glu Glu
    530                   535                   540
Thr Ala Thr Thr Val Val Ala Ala Ala Ser Ser Thr Ser Ile Pro Ser
    545                   550                   555                   560
Ser Glu Ala Thr Thr Pro Thr Pro Gly Ala Ser Pro Pro Ala Pro Glu
            565                   570                   575
Met Glu Arg Pro Pro Ala Pro Glu Ser Val Gly Thr Glu Glu Met Pro
            580                   585                   590
Glu Asp Gly Glu Pro Asp Ala Ala Glu Leu Arg Arg Arg Arg Leu Gln
            595                   600                   605
Lys Leu Glu Ser Pro Val Ala His
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<210> 40
<211> 3074
<212> DNA
<213> Homo sapiens

<400> 40
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ggccagcctg gcgctgaccg gggctgtggt ggctcacgcc tactacctca aacaccagtt     180
ctaccccact gtggtgtacc tgaccaagtc cagccccagc atggcagtcc tgtacatcca     240
ggcctttgtc cttgtcttcc ttctgggcaa ggtgatgggc aaggtgttct ttgggcaact     300
gagggcagca gagatggagc accttctgga acgttcctgg tacgccgtca cagagacttg     360
tctggccttc accgtttttc gggatgactt cagcccccgc tttgttgcac tcttcactct     420
tcttctcttc ctcaaatgtt tccactggct ggctgaggac cgtgtggact ttatggaacg     480
cagccccaac atctcctggc tctttcactg ccgcattgtc tctcttatgt tcctcctggg     540
catcctggac ttcctcttcg tcagccacgc ctatcacagc atcctgaccc gtggggcctc     600
tgtgcagctg gtgtttggct ttgagtatgc catcctgatg acgatggtgc tcaccatctt     660
catcaagtat gtgctgcact ccgtggacct ccagagtgag aacccctggg acaacaaggc     720
tgtgtacatg ctctacacag agctgtttac aggcttcatc aaggttctgc tgtacatggc     780
cttcatgacc atcatgatca aggtgcacac cttcccactc tttgccatcc ggcccatgta     840
cctggccatg agacagttca agaaagctgt gacagatgcc atcatgtctc gccgagccat     900
ccgcaacatg aacaccctgt atccagatgc caccccagag gagctccagg caatggacaa     960
tgtctgcatc atctgccgag aagagatggt gactggtgcc aagagactgc cctgcaacca    1020
cattttccat accagctgcc tgcgctcctg gttccagcgg cagcagacct gccccacctg    1080
ccgtatggat gtccttcgtg catcgctgcc agcgcagtca ccaccacccc cggagcctgc    1140
ggatcagggg ccaccccctg ccccccaccc cccaccactc ttgcctcagc cccccaactt    1200
cccccagggc ctcctgcctc cttttcctcc aggcatgttc ccactgtggc cccccatggg    1260
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gaggctgggg ttcccatttg actccagtcc caggcagcca tggggatctc gggtcagttc    2160
cagccttcct ctccaactct tcagccctgt gttctgctgg ggccatgaag gcagaaggtt    2220
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ccaaggaggg accacaggag ctgggacctg cctgcccctg tcttttcccc ttggtttttgt    2940
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aaaaaaaaaa aaaa                                                       3074


<210> 41
<211> 617
<212> PRT
<213> Homo sapiens


<400> 41
Met Phe Arg Thr Ala Val Met Met Ala Ala Ser Leu Ala Leu Thr Gly
 1               5                  10                  15
Ala Val Val Ala His Ala Tyr Tyr Leu Lys His Gln Phe Tyr Pro Thr
            20                  25                  30
Val Val Tyr Leu Thr Lys Ser Ser Pro Ser Met Ala Val Leu Tyr Ile
        35                  40                  45
Gln Ala Phe Val Leu Val Phe Leu Leu Gly Lys Val Met Gly Lys Val
    50                  55                  60
Phe Phe Gly Gln Leu Arg Ala Ala Glu Met Glu His Leu Leu Glu Arg
65                  70                  75                  80
Ser Trp Tyr Ala Val Thr Glu Thr Cys Leu Ala Phe Thr Val Phe Arg
                85                  90                  95
Asp Asp Phe Ser Pro Arg Phe Val Ala Leu Phe Thr Leu Leu Leu Phe
            100                 105                 110
Leu Lys Cys Phe His Trp Leu Ala Glu Asp Arg Val Asp Phe Met Glu
        115                 120                 125
Arg Ser Pro Asn Ile Ser Trp Leu Phe His Cys Arg Ile Val Ser Leu
    130                 135                 140
Met Phe Leu Leu Gly Ile Leu Asp Phe Leu Phe Val Ser His Ala Tyr
145                 150                 155                 160
His Ser Ile Leu Thr Arg Gly Ala Ser Val Gln Leu Val Phe Gly Phe
                165                 170                 175
Glu Tyr Ala Ile Leu Met Thr Met Val Leu Thr Ile Phe Ile Lys Tyr
            180                 185                 190
Val Leu His Ser Val Asp Leu Gln Ser Glu Asn Pro Trp Asp Asn Lys
        195                 200                 205
Ala Val Tyr Met Leu Tyr Thr Glu Leu Phe Thr Gly Phe Ile Lys Val
    210                 215                 220
Leu Leu Tyr Met Ala Phe Met Thr Ile Met Ile Lys Val His Thr Phe
225                 230                 235                 240
Pro Leu Phe Ala Ile Arg Pro Met Tyr Leu Ala Met Arg Gln Phe Lys
                245                 250                 255
Lys Ala Val Thr Asp Ala Ile Met Ser Arg Arg Ala Ile Arg Asn Met
            260                 265                 270
Asn Thr Leu Tyr Pro Asp Ala Thr Pro Glu Glu Leu Gln Ala Met Asp
        275                 280                 285
Asn Val Cys Ile Ile Cys Arg Glu Glu Met Val Thr Gly Ala Lys Arg
    290                 295                 300
Leu Pro Cys Asn His Ile Phe His Thr Ser Cys Leu Arg Ser Trp Phe
305                 310                 315                 320
Gln Arg Gln Gln Thr Cys Pro Thr Cys Arg Met Asp Val Leu Arg Ala
                325                 330                 335
Ser Leu Pro Ala Gln Ser Pro Pro Pro Glu Pro Ala Asp Gln Gly
            340                 345                 350
Pro Pro Pro Ala Pro His Pro Pro Pro Leu Leu Pro Gln Pro Pro Asn
        355                 360                 365
Phe Pro Gln Gly Leu Leu Pro Pro Phe Pro Pro Gly Met Phe Pro Leu
    370                 375                 380
```

```
Trp Pro Pro Met Gly Pro Phe Pro Pro Val Pro Pro Pro Pro Ser Ser
385             390             395             400
Gly Glu Ala Val Ala Pro Pro Ser Thr Ser Ala Ala Ala Leu Ser Arg
            405             410             415
Pro Ser Gly Ala Ala Thr Thr Thr Ala Ala Gly Thr Ser Ala Thr Ala
            420             425             430
Ala Ser Ala Thr Ala Ser Gly Pro Gly Ser Gly Ser Ala Pro Glu Ala
            435             440             445
Gly Pro Ala Pro Gly Phe Pro Phe Pro Pro Trp Met Gly Met Pro
    450             455             460
Leu Pro Pro Pro Phe Ala Phe Pro Pro Met Pro Val Pro Pro Ala Gly
465             470             475             480
Phe Ala Gly Leu Thr Pro Glu Glu Leu Arg Ala Leu Glu Gly His Glu
            485             490             495
Arg Gln His Leu Glu Ala Arg Leu Gln Ser Leu Arg Asn Ile His Thr
            500             505             510
Leu Leu Asp Ala Ala Met Leu Gln Ile Asn Gln Tyr Leu Thr Val Leu
            515             520             525
Ala Ser Leu Gly Pro Pro Arg Pro Ala Thr Ser Val Asn Ser Thr Glu
            530             535             540
Glu Thr Ala Thr Thr Val Val Ala Ala Ala Ser Ser Thr Ser Ile Pro
545             550             555             560
Ser Ser Glu Ala Thr Thr Pro Thr Pro Gly Ala Ser Pro Pro Ala Pro
                565             570             575
Glu Met Glu Arg Pro Pro Ala Pro Glu Ser Val Gly Thr Glu Glu Met
            580             585             590
Pro Glu Asp Gly Glu Pro Asp Ala Ala Glu Leu Arg Arg Arg Arg Leu
    595             600             605
Gln Lys Leu Glu Ser Pro Val Ala His
    610             615
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